

REMARKS

Claims 1-4 and 6-40 are pending in the application. Claims 1, 3, 4, 25, 29, and 39 have been amended. No new matter is added by the amendment. Applicants respectfully request entry of the amendment and reconsideration of the outstanding rejections in this application.

35 USC § 112

Claims 1-4 and 6-40 stand rejected under 35 USC § 112, second paragraph, as being indefinite for failing to point out and distinctly claim the invention. With respect to claims 1, 39, and 40, the Examiner is understood to believe it is unclear whether Applicant is claiming that the same fabric is embedded in both rigid thermoplastic areas, or if the fabric connects the adjoining areas or is in the at least one flexible hinged region.

Applicants respectfully traverse this rejection. Applicants have amended independent claims 1, 25, and 39 merely to clarify that the fabric is a part of the extruded composite in the first and second rigid areas as well as in the at least one flexible hinged region. Withdrawal of this rejection is respectfully requested.

Claims 1-4 and 6-40 were rejected as allegedly indefinite for use of the term "rigid." Applicants respectfully traverse this rejection. Page 6, lines 6-10 of the specification states that a rigid thermoplastic is defined as a thermoplastic that fractures upon bending the inventive composite through a predetermined angle at a specified radius of curvature. Applicants submit that one of ordinary skill in the art could readily determine whether a material is one that would fracture upon bending the inventive composite through a predetermined angle at a specified radius of curvature. Therefore, Applicants submit that the term "rigid" is definite as used in claims 1-4 and 6-40. Withdrawal of this rejection is respectfully requested.

Claims 3, 4, 29, and 30 were rejected as unclear in scope. The Examiner is understood to believe it is unclear if "flexible thermoplastic" is a third or fourth layer, or if it is the flexible hinged region or the flexible sealant. Applicants have amended these claims to clarify that the flexible sealant is a flexible thermoplastic. Withdrawal of these rejections is requested.

Claim 25 was also rejected as unclear in scope. Applicants have amended the claim to clarify that the flexible fabric joins the rigid areas through the at least one flexible hinged region. Withdrawal of this rejection is requested.

35 U.S.C. § 103

Claims 1-4 and 6-40 stand rejected under 35 U.S.C. § 103 as being unpatentable over Teeter in view of Joyce. Applicants respectfully traverse this rejection. Briefly, these references as a whole do not teach two rigid PVC/fiber regions connected by a flexible hinge that also contains the fabric.

Independent claims 1 and 39 recite a fabric that is embedded into a first and second rigid thermoplastic composite area, and wherein the fabric joins the first and second rigid areas through the at least one flexible hinged region. At least one portion of the at least one flexible hinged region is coated with a flexible sealant. Independent claim 25 recites a hinged profile comprising a flexible fabric coated on both sides by a rigid thermoplastic, the profile having at least two pre-determined, non-coplanar composite areas, and wherein the flexible fabric joins the at least two composite areas through at least one flexible hinged region. At least one portion of the at least one flexible hinged region is coated with a flexible sealant.

Thus, Applicants' claims recite that the flexible fabric joins two separate rigid areas through at least one flexible hinged region, wherein a portion of the flexible region is coated with a flexible sealant.

Teeter, in contrast, discloses a hinge wherein a plurality of fabric cords is completely embedded in a single, "one-piece resilient non-metallic material." (column 4, lines 22-24). Therefore, Teeter does not disclose or suggest two separate rigid areas joined through a separate flexible hinged region, wherein the hinged region is coated by a separate, flexible sealant. The Joyce reference does not cure this deficiency of Teeter. Thus, Applicants submit that claims 1, 25, and 39, along with their dependent claims 2-4, 6-24, 26-38, and 40 are nonobvious over Teeter in view of Joyce for at least this reason.

Additionally, Applicants claims recite rigid thermoplastic areas. Applicants specification defines "rigid" as "a thermoplastic that fractures upon bending the inventive composite through a predetermined angle at a specified radius of curvature" (page 6,

lines 6-10). Neither Teeter nor Joyce teaches or suggests rigid thermoplastic fabric composite areas that fracture upon bending the inventive composite through a predetermined angle at a specified radius of curvature. Therefore, the claims are nonobvious over Teeter in view of Joyce for this additional reason.

In light of the foregoing arguments, Applicants submit that claims 1-4 and 6-40 are patentable over Teeter in view of Joyce. Withdrawal of this rejection is respectfully requested.

Claims 1-4 and 6-40 stand rejected under 35 U.S.C. § 103 as being unpatentable over Vliet in view of Joyce. Applicants respectfully traverse this rejection.

As stated above with respect to the Teeter reference, independent claims 1 and 39 recite a fabric that is embedded into a first and second rigid thermoplastic composite areas, and wherein the fabric joins the first and second rigid areas through the at least one flexible hinged region. At least one portion of the at least one flexible hinged region is coated with a flexible sealant. Independent claim 25 recites a hinged profile comprising a flexible fabric coated on both sides by a rigid thermoplastic, the profile having at least two pre-determined, non-coplanar composite areas, and wherein the flexible fabric joins the at least two composite areas through at least one flexible hinged region. At least one portion of the at least one flexible hinged region is coated with a flexible sealant.

Thus, Applicants' claims recite that the flexible fabric joins two separate rigid areas through at least one, separate, flexible hinged region, wherein a portion of the flexible region is coated with a flexible sealant.

Van Vliet, in contrast, discloses a fabric completely embedded in a single rubber hinge. (column 1, line 57 to column 2, line 2; Fig. 5). Therefore, Van Vliet does not disclose or suggest two separate rigid areas joined through a separate flexible hinged region, wherein the hinged region is coated by a separate, flexible sealant. The Joyce reference does not cure this deficiency of Van Vliet. Thus, Applicants submit that claims 1, 25, and 39, along with their dependent claims 2-4, 6-24, 26-38, and 40 are nonobvious over Van Vliet in view of Joyce for at least this reason.

Additionally, Applicants claims recite rigid thermoplastic areas. Applicants' specification defines "rigid" as "a thermoplastic that fractures upon bending the inventive composite through a predetermined angle at a specified radius of curvature" (page 6,

lines 6-10). Neither Van Vliet nor Joyce teaches or suggests rigid thermoplastic areas that fracture upon bending the inventive composite through a predetermined angle at a specified radius of curvature. Therefore, the claims are nonobvious over Van Vliet in view of Joyce for this additional reason.

In light of the foregoing arguments, Applicants submit that claims 1-4 and 6-40 are patentable over Van Vliet in view of Joyce. Withdrawal of this rejection is respectfully requested.

Claims 1-4 and 6-40 stand rejected under 35 U.S.C. § 103 as being unpatentable over Hutchison in view of Teeter.

Applicants respectfully traverse this rejection. As stated previously, independent claims 1 and 39 recite a fabric that is embedded into a first and second rigid thermoplastic composite areas, and wherein the fabric joins the first and second rigid areas through the at least one flexible hinged region. At least one portion of the at least one flexible hinged region is coated with a flexible sealant. Independent claim 25 recites a hinged profile comprising a flexible fabric coated on both sides by a rigid thermoplastic, the profile having at least two pre-determined, non-coplanar composite areas, and wherein the flexible fabric joins the at least two composite areas through at least one flexible hinged region. At least one portion of the at least one flexible hinged region is coated with a flexible sealant.

Thus, Applicants' claims recite that the flexible fabric joins two separate rigid areas through at least one, separate, flexible hinged region, wherein a portion of the flexible region is coated with a flexible sealant.

Hutchison et al, in contrast, disclose three, substantially rigid panel sections (2) joined by hinges (1). Each of the hinges comprises a thin ply or web (3) of the same hardness and composition as the panels 2 (column 2, line 65 to column 3, line 2). Thus, Hutchison et al. do not teach or suggest two separate rigid areas joined through a separate flexible hinged region. Rather, the hinge region itself is comprised of the same composition having the same hardness as the rigid panel sections. Teeter does not cure this deficiency of Hutchison et al. Therefore, claims 1, 25, and 39, along with their dependent claims 2-4, 6-24, 26-38, and 40 are patentable over Hutchison et al. in view of Teeter for at least this reason. Withdrawal of this rejection is respectfully requested.

CONCLUSION

In view of the foregoing Amendment and Remarks, Applicants respectfully submit that all pending claims are in condition for allowance, and notice to that effect is earnestly solicited. Please direct any inquiries concerning this application to the undersigned attorney at 612-371-5375.

Respectfully submitted,

9 May 03
Date

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FILED
MAY 12 2003
GROUP 1700



VERSION WITH MARKUPS TO SHOW CHANGES MADE

1. (Thrice Amended) A hinged, composite structure comprising a first rigid thermoplastic area, a second rigid thermoplastic area, and at least one flexible hinged region, wherein a fabric is embedded in[to a] the first rigid thermoplastic composite area and [a] the second rigid thermoplastic composite area and hinged region, and wherein said first rigid area and said second rigid areas are joined through the at least one flexible hinged region, [said areas adjoining through at least one flexible hinged region permitting] so as to permit rotation of the first rigid area relative to the second rigid area about the hinged region, wherein the first rigid area and the second rigid area include bends at pre-determined distances from the hinged region, and wherein further at least one portion of said at least one flexible hinged region is coated with a flexible sealant.

3. (Amended) The structure of Claim 2, wherein the flexible sealant [said linear region] comprises a flexible thermoplastic.

4. (Thrice Amended) The structure of claim 3, wherein said linear region is coated on both sides by said flexible sealant, and wherein said sealant is a flexible thermoplastic, said structure being free of rigid thermoplastic within said at least one flexible hinged regions.

25. (Thrice Amended) A hinged profile comprising:

(a) a flexible fabric coated on both sides by rigid thermoplastic, the profile having at least two pre-determined, non-coplanar composite areas, and at least one flexible hinged region, wherein at least two composite areas are joined through the at least one flexible hinged region [joining said rigid areas], and wherein further at least one portion of said at least one flexible hinged region is coated with a flexible sealant.

29. (Twice Amended) The profile of Claim 28, wherein said flexible sealant [linear hinged regions] comprises flexible thermoplastic.

39. (Thrice Amended) An exterior corner profile comprising a first rigid thermoplastic area, a second rigid thermoplastic area, and at least one flexible hinged region, wherein a fabric is embedded into [a] the first rigid thermoplastic composite area and [a] the second rigid thermoplastic composite area and hinged region, and wherein the first and second rigid areas are joined through the at least one flexible hinged region, [said areas adjoining through at least one flexible hinged region] so as to permit [permitting] rotation of the first rigid thermoplastic composite area relative to the second rigid thermoplastic composite area about the hinged region, wherein the profile is adapted to receive construction panels when the hinged region is rotated through a clockwise bend angle of 90 degrees, and wherein further at least one portion of said at least one flexible hinged region is coated with a flexible sealant.

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